

L16 ANSWER 18 OF 48 WPIX (C) 2003 THOMSON DERWENT  
AN 1991-024251 [04] WPIX Full-text  
DNC C1991-010417  
TI Expandable polymer beads are prepared by polymerising - vinyl aromatic monomer as aqueous suspension in presence of expanding agent, poly ethylene wax, and nonionic surfactant.  
DC A13 A17  
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CYC 19  
PI EP 409694 A 19910123 (199104)\*  
R: AT BE CH DE ES FR GB GR IT LI LU NL SE  
FR 2649983 A 19910125 (199111)  
CA 2021446 A 19910120 (199116)  
FI 9003629 A 19910120 (199118)  
US 5011863 A 19910430 (199119)  
JP 03220209 A 19910927 (199145)  
US 5071882 A 19911210 (199201)  
DD 298944 A5 19920319 (199233) C08J009-20  
ADT EP 409694 A EP 1990-401986 19900710; FR 2649983 A FR 1989-9704 19890719;  
US 5011863 A US 1990-553815 19900719; JP 03220209 A JP 1990-189293  
19900717; US 5071882 A US 1991-656890 19910219; DD 298944 A5 DD  
1990-342856 19900717  
PRAI FR 1989-9704 19890719  
REP 1.Jnl.Ref; DE 3347279; GB 2110217; US 4761432  
IC ICM C08J009-20  
ICS B01J013-02; C08F002-44; C08F012-02; C08F012-06; C08J009-32  
AB EP 409694 A UPAB: 19940203  
Expandable beads (I) are prepared by (1) polymerising in aqueous suspension at 80-150 deg C under 1-20 bars pressure for 6-20 hrs. at least one vinyl aromatic monomer (II) in presence of (A) effective amount of at least one polymerisation initiator, (B) effective amount of at least one suspension stabiliser, (C) 0.01-0.6% (all pts. by weight), on weight (II), at least one **polyethylene wax** (III). (D) 0.005-0.1%, on weight (II), at least one nonionic surfactant (IV) having hydrophilic-lipophilic balance (HLB) 7-16. (2) adding effective amount of at least one expanding agent.  
Prods. obtd. from (I), containing 0.01-0.6% at least one (III) and 0.005-0.1% at least one (IV), partic. as pre-expanded beads or as moulded articles.  
USE/ADVANTAGE - Thermal insulation, packaging. Cooling time of moulded expanded prod. from (I), i.e., time taken by moulded article for pressure on wall of mould to fall to 1.15 bars) is shortened, permitting greater production rate, without affecting thermal conductivity. @ (5pp Dwg.No.0/0)  
0/0  
FS CPI  
FA AB  
MC CPI: A04-C01; A04-G02E; A08-M09C; A09-A01A; A10-B05; A12-S01A;  
A12-S04A; A12-S09  
ABEQ US 5011863 A UPAB: 19930928  
Prepn. of expandable polymer beads comprises, a) the polymerisation in aq. suspension at a temp. of 80-150 deg.C at a pressure of 1-20 bars, for a period of 6-20 hrs. of at least one vinylaromatic monomer, in an effective quantity of at least one polymerisation initiator and of an effective quantity of at least one susp. stabiliser and, b) the addn. of an effective quantity of at least one blowing agent. The polymerisation is performed in the presence, relative to the vinylaromatic monomer, of 0.01-0.6 wt. % of one **polyethylene wax** and 0.005-0.1 wt. % of one nonionic surface active agent with an HLB (hydrophile lipophile balance) value of 7-16.  
Initiator used in pref. quantity of 1 wt. % relative to the vinylaromatic monomer and the quantity of susp. stabiliser is not more than 1 wt. %. The wt. ratio of water is pref. close to 1 the blowing agent is from the pref. satd. hydrocarbons and used in a quantity less than 1 wt. % of the vinylaromatic monomer. **Polyethylene wax** is used at a rate of 0.1-0.3 wt. % and nonionic surface active agent at a rate of 0.02-0.04 wt. %/  
USE/ADVANTAGE - Considerable redn. in the cooling time of the moulded articles.